Abstract

A system and method that detect the location as well as the luminance transition range of slant image edge in a digital image. The variance value for the pixels inside a

5 window in the image is calculated. Based on the variance value, a current pixel can be classified as being in an edge region or in a non-edge region. If the current pixel is in a non-edge region, no further checking is needed, otherwise binary pattern data is generated from the pixels inside the

10 window. Then it is determined whether the current pixel is a center pixel in a luminance transition range of a slant edge based on the binary pattern data at the current pixel location and its neighboring binary pattern data. It is determined if the current pixel is the center pixel in a

15 luminance transition range of a e.g. ±45° direction edge. If it is, then no further processing is needed at the current pixel location and the luminance transition range is considered as 3 pixels wide. Otherwise, based on the neighboring binary pattern data, another checking process is

20 performed to determine whether the current pixel is a center pixel in a luminance transition range other than a ±45° slant edge. If the current pixel is considered as a center pixel in a luminance transition range other than a ±45°

slant edge, then the length of the luminance transition

range of the slant edge is determined by checking more

binary pattern data inside the window.